432 MHz AND ABOVE EME NEWS

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EME NETS

14.345, 10 AM ET SATURDAYS, AFTER VARO NET SUNDAYS:

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CONDITIONS

Well we are made it to 2000 - what a celebration! As anticipated the Christmas Eve SW was not over populated, but some pretty good conditions and some excellent fellowship rewarded those who showed up. A few stations were on earlier in the week (22/23 Dec) for celebration of the closest Moon Perigee in 133 years! Because of the short turn around between the Dec and Jan SWs, this NL is a bit short. It does allow us to clean up some of the loose ends from Dec. I want to report that the 70 cm score reported for DL9KR was incorrect. Jan ended with 118x35. Not enough to knock OH2PO out of the top stop, but still enough to assure 2nd place. Dec did produce one important milestone, the 1st 2 yagi to 2 yagi QSO on 70 cm – see EA3DXU and IK5QLO's reports.

AL7EB

Ed in Nikiski, Alaska (BP40iq) is planning EME operation on 1296 and the microwave bands -- I have nearly everything for 1296. The line-up is FT-847, DEMI 1296/144 xvtr, K9EK-7211 driver, OE9PMJ-TH-328, which I hope will provide 500 W. Remaining to be completed is the 7211-PSU, LNA, 1-5/8" hardline, and putting up the 5 m dish, now resting in pieces in my barn. I am hoping that this will all finally happen this summer. Recently, I ordered the new DEMI 10368/144 xvtr and DB6NT EME preamp. I have a 2.57 m dish sitting in my back yard just waiting for the electronics. This dish is a former VSAT-ku-band, shipboard unit with computer controlled 3-axis mount and +/-45 deg polarity rotation. It is currently plumbed with WR-90 waveguide to a prime feed. I'm hoping it will make a good setup for 3 cm. With luck I will have it operational for receiving tests possibly as soon as February. Working on this in the middle of Alaska's winter can be a challenge, so it will remain to be seen how successful I'll be. As soon as I have it hearing on the Moon, I'll need help locating a TWTA. There are little or no real sources for this kind of equipment up here. You can reach me on e-mail at al7eb@ptialaska.net.

DK3FB

Ruediger had the following contacts on 432 during the 2nd leg of the ARRL EME contest: DJ6MB, F5FLN, NC1I, DK3WG, KD4LT, G3SEK, K2UYH, K5GW, ON5OF and finally DL3EAG. He found conditions good inside Eur, but poor to JA. Ruediger ended up with 21 contacts in both parts.

DL3EAG

Stephan had the following contacts on 70 cm during the Nov part of the ARRL Contest: K2UYH, DJ6MB, G4ERG for initial #51, JA5OVU, JL1ZCG, K5GW and DK3FB. His final contest score was 21x12. CWNR were G3SEK, W7GBI (quite a long time), N4GJV, 7M2PDT and JA5NNS. Heard were DL1YMK, DF3RU, N9AB (much louder than last SW - about 549 this time), F5FLN, OZ4MM (also much louder than in the 1st leg), JH4JLV, OE5JFL (559!), F5FEN and UT7Z (?). Stephan found conditions similar to DK3FB – good to Eur and NA, but poor to JA. He was not QRV for the Dec SW, but instead following his 2nd hobby (skiing in the Alps).

DL9KR

Jan had a difficult year. He lost his mother in Sept and had little time for EME. He looks forward to a brighter 2000. '99 did provide the following initials: 02 Jan VE3DEW for #710, 27 Mar OE3JPC (new QTH) #711 and G4ERP #712, 28 Mar RW1AW #713 and VE6TA (new QTH) #714, 17 April AL70B #715, 20 June JA6AHB (new QTH) #716, 14 Aug W7SZ #717 and 05 Sept UA3PTW #718. I understand K8ISK is ex-WD8ISK. The contest went smoothly with good conditions prevailing. However, activity was the lowest in about 15 years. 123 different calls were worked: on 30 Oct DJ3FI, S52CW, Y02IS, JLlZCG, 7M2PD2, IN3AGI, JA2TY, JR1RCH, S51ZO, JA5NNS, FlCH, JA8IAD #719, DL9NDD, G4ALH, OE3JPC, ON5OF, UT5EC, I5CTE, VE1ZJ, JA6AHB, F5FLN, DK3FB, G4ERG, DL1YMK, DL4MEA, DF3RU, K1FO, RW1AW, HA1YA, G3SEK, OH2PO, UA4API, OZ6OL, N2IQU, DK3WG, DL6WU, SM3AKW, W8MQW, OZ4MM, PA3CSG, N9AB, PA3DZL, W7CNK, G3HUL, IK2EAD, UA6LGH, K5WXN, W7SZ, K0RZ, W6DF, K5GW, OE5EYM, UT3LL, IK5QLO, DL6NAA, UA9FAD, OM1TL, DK3BU, N4GJV, N3FA #720, KL7HFQ, AL70B, W7BBM, EA3DXU, SK4BX, G3LTF, DL3EAG, VK4AFL, UA3PTW and JH4JLV, on 31 Oct JR1EUX, F5FEN, DJ6MB, JR4IUH #721, JA3SGR, ON4KNG, JS3SIM, NC1I, K8ISK, KB0VUK #722, W0KJY, KJ7F #723, K2UYH, WB0GGM and PA0AVS, on 27 Nov VE6TA, CT1DMK, RV4AQ, IK5WJD, KA0RYT, K4AR #724, WA4NJP, I5TDJ, WE2Y, F5KKD #725, F5PMB = F5KKD, WW2R, W7GBI, DL8OBU, DL7APV, JA5OVU, JJ1NNJ, JH0WJF #726, SM4IVE, IN3KLQ, DK0MM #727, DL1DWI #728, G4RGK, F6GYH = F5KKD and F6GPU = F5KKD, and 28 Nov JHlXUJ, OE5JFL, VE1ALQ, DM2AFN = DLlDWI, KD4LT, OH2DG, F5HRY, KB2AYU, W2WD, DF4UE, DH5FS = DL1DWI and PA3DYS #729. The above list does not include several dupes. It's always pleasant to work a new call sign, but less pleasant to find out later that the call had been used from a previously worked station; for example F5KKD = F5PMB = F6GYH = F6GPU, or DL1DWI = DH5FS = DM2AFN. This all boils down to a score of 118x35 = 413,000 points. Highlights were working John, VE1ZJ, right in the middle of my JA window, hearing AL70B well via his western window, working Warren, W2WD after many years

with excellent signals, and finally to find out that I worked OE5JFL when he was using his dual dipole feed alone!

EA3DXU

Josep sends word of the 1st 2 yagi to 2 yagi EME QSO on 432 – I QSO'd on 23 Dec at 0527 my friend IK5QLO (O/O) in a sked. After 6 and a half years of activity on 432 with 2 x 38 el M2 yagis and after many not successful skeds, it was finally possible to complete the 1st ever 2 yagi to 2 yagi QSO with the help of Moon perigee and very low sky noise. At the beginning signals were very poor, and we were not able to hear each other. After 15 minutes, sked conditions improved and good signals were heard. After that signal strength raised each period until by the end conditions were excellent and could easily have permitted a Random QSO. The equipment at IK5QLO's side was 2 x 28 el yagis and 1 kW. At my end I ran my normal 2 yagis and 1,350 W. Now with the state of the art of equipment on 144 and 432 MHz, it is not necessary to have a big array to do some QSOs on EME. It is only necessary to have good tropo equipment for QSOs with big guns. This result should encourage well-equipped tropo or satellite stations to try EME. I was also fortunate to complete the 1st 2 yagi to 2 yagi 144 MHz EME QSO on the 24 September of 1988, with PA0JMV. I am sure that in the coming years 2 yagi to 2 yagi random QSOs will become common on the 432 MHz band. Since last July I have completed 13 initials and WAC on 432. QSO'd on 10 July JA5NNS (M/O) for initial #101, on 10 Sept WE2Y (O/M) # 102, on 2 Oct AL7OB (M/M) #103 and DXCC 33 and JA6AHB (449/439) #104, on 1 Nov OE3JPC (O/O) #105, 19 Nov KB8RQ (O/O) #106 and W7CNK (O/M) #107, on 27 Nov UA9FAD (O/O) #108 and DXCC 34, W7GBI (449/549) #109 – on random and DL7APV (O/O) #110 – also on random, on 23 Dec IK5QLO (O/O) # 111, and on 25 Dec PY5ZBU (O/O) #112 DXCC 35 and WAC(!), VK4AFL (O/O) #113 and JA2TY (O/O) #114.

G3LTF

Peter has very little to report because of a combination of strong gales and the flu which prevented any operation over the Dec SW -- The worst of the storms missed us, going 1st north and then south, but we did get 6" of snow and some very strong gusts. I'm pleased to say that everything survived. I would have liked to have tried operating in the 133 year Perigee! I'm really sorry to hear about all the damage in F and DL. Having had 2 dishes almost destroyed by hurricanes in 87 and 91 I can sympathize. I'm going to scan in some photos of how I retract the dish here and email them to you for the tech section. I've also done some simple analysis of 19 years of EME contest operating looking for any evidence to support my "gut feeling" that the US EME activity, on uhf, is declining. I was so sorry to hear of the passing of Paul, W4HHK. He was inspirational in many ways. The work he did and the subsequent W4LTU article in QST kindled my interest in MS operation in 1957. He was my 1st US 13 cm contact in 1992. We

visited him after the 1994 Memphis CSVHF conference and saw the famous klystron, dish and tower. Sadly I never managed to work him from this location, although I heard him - my ERP was too low with the longer feeder run. We all will miss Paul.

G3SEK

Ian has sent the following general comments on the selection of SWs in response to WA6KBL's comments – see Jeffrey's report -- There are several factors that make a difference between one weekend and another. 1. Closeness to perigee (W5LUU: low values of "range factor", G3SEK: more positive values of "signals") This is a reliable prediction and is the same for everybody, on all bands. 2. Sky noise temperature. The effect depends on the sky noise relative to each station's system noise temperature. This makes it very important on 144 MHz, less important on 432, and unimportant on microwaves. 3. Risk of Sun noise (W5LUU: "moon phase", G3SEK: "sun offset, deg") Obviously this depends on each station's beamwidth, and since beamwidths are wider on 144, there is less tolerance for operating close to new Moon. The narrow beamwidths and generally cleaner sidelobe patterns of microwave dishes mean they can operate much closer to new moon - or even on the day of new moon, if there is sufficient difference in elevation. Those three factors are all relevant when setting up a spot sked with another station, and it can be difficult to balance all the factors and decide on the optimum time. It depends what you mean by "optimum". In particular, much more weight has to be given to sky noise on 144 MHz. But when you're choosing dates for activity weekends or contests, there are even more factors to consider. 4. Available Moon time. For the vast majority of stations, high positive declination gives more Moon time. Factors 1, 2 and 3 have the capability to make QSOs easier or more difficult - but QSOs are flat-out impossible when the Moon isn't up, or when it's at low elevations and blocked by local obstructions. 5. Time of day. The keen EMEers will get on the air whenever the Moon is up, but operators with other commitments and a need for sleep tend to favor more convenient times of day such as daytime and evening for their operating (G3SEK: "day (pm)" weekends). 6. Type of contest. (a) Duration. The ARRL contest runs over 2 full weekends, so the available Moon time on one individual weekend is not necessarily a big factor. The EuWW (DUBUS/REF) contest is a one-weekend "sprint" on each band, which makes available Moon time (ie declination) much more important. (b) Mix of bands. The ARRL contest operates all bands simultaneously, with a majority of entrants on 144 MHz, so this pushes the choice of weekends toward low sky noise. Because the same criteria apply to both ARRL weekends, they are always 4 weeks apart. The EuWW contest splits the bands and activity between two weekends, giving more freedom of choice - for example, next year the two weekends will NOT be four weeks apart, because 144/1296 takes place on a low sky noise weekend, while 432/microwave has a weekend with more Moon time. (c) Other contests. The

ARRL EME contest has to avoid another ARRL contest in Sept, and also the Eur VHF/UHF contests on 1st weekends in Sept, Oct and Nov - especially Nov where the CW contest fills up the bottom end of 144 MHz. (d) Weather. Obviously there is more risk of bad weather if the ARRL contest slips into Dec, or if the EuWW slips into early March. Gasp... If you can balance all of these factors to the satisfaction of everybody, please let the ARRL, K2UYH and myself know how you do it!

HB9BBD

Dominique writes -- The ARRL contest is now over and yielded quite a few initials: F1ANH/P #131, W1ZX #132, WA6KBL #133, JA8IAD #134, HB9BCD #135, IK2MMB #136, K5GW #138, WA5OFS #139, DL4YAO #140, W4AD #141 and W1QC #142. All initials and those stations who are not yet registered with a soundfile on my homepage may soon be able to playback their signal off the Moon at http://www.hb9bbd.ch. The conditions were difficult to judge – on the 1st contest weekend we got snow. The 2nd weekend was very foggy at times. All equipment worked flawlessly and no technical action was needed. A few hours after the end of the contest the icy trees in the area caused a power failure for several hours in a vast area. Happily this was only after moonset! Participation seemed to be very poor though. On 23 cm I guess that more than 150 stations could easily be worked. I worked only 66. I missed a few who were there, but still this is more than 20 less than last year. Some participants seemed to look in just to add some initials and then left. CWNR were PA3CSG, W7QX, W0KJY, DD1XF, OE9XXI, GM0ONN, 9H1ES and DL8OBU. The strongest station on the band was probably HB9SV. Enrico was peaking almost 40 dB over noise. SV1OE was the most surprising QSO – after many years of silence from Greece. It was disappointing that many of the countries represented on 23 cm EME did not show up at all during the contest. (Maybe some friends were on other bands?) It seems to me that staying up all night two full weekends long is not worth the result. I guess that I prefer the ordinary SW with its lower stress – just hang around a bit and work some stations for fun. Next year I plan to re-engineer my contest effort. I bet that I will work far more than 100 stations in the ARRL contest 2001 - I promise that I will wake-up you guys! My contest log follows: on 3 Oct 0002 JA6CZD (569/579), 0008 DJ5MN ((56/57) SSB, 0012 SM3AKW (579/579), 0023 F1ANH/p (549/549), 0035 OK1DFC (559/579), 0040 JH5LUZ (579/589), 0056 EA3UM (579/589), 0102 ON5RR (569/569), 0108 F5PAU (579/579), 0117 DH9FAG (559/559), 0140 HA5SHF (549/579), 0149 OE5EYM (589/579), 0159 S59DCD (579/589), 0230 OZ6OL (559/579), 0311 DF4PV (579/589), 0317 VE1ALQ (589/579), 0322 CT1DMK (559/569), 0334 G3LTF (579/579), 0425 K3HZO (559/569), 0440 WA9OUU (569/599), 0445 N2IQU (58/59) SSB, 0502 DL0SHF (58/59) SSB, 0506 W2UHI (579/579), 0507 KD4LT ((58/58) SSB, 0525 W3XS (559/579), 0540 VE1ZJ (549/569), 0557 K9BCT (559/579), 0610 K5JL (599/599), 0618 WA1JOF (539/CWNR), 0625 K2UYH

(569/579), 0642 HB9SV (599/599), 0658 W1ZX (589/599), 0710 W5LUA (579/589), 0719 OH2AXH (589/589), 0741 WA6KBL (569/589), 0804 OE9ERC ((589/589), 2219 JA8IAD (529/569), 2257 OE5JFL (589/589) and 2315 VK5MC (569/559), on 31 Oct 0430 HB9BCD (519/549), 0548 K2DH (559/589), 0606 VE6TA (559/579), 0616 WD5AGO (569/559), 0623 K4QI (579/579), 0644 F6CGJ (589/589), 0657 OZ4MM (579/579) and 0707 OH2DG 569/579), on 27 Nov 0055 DF9QX (559/579), 0101 IK2MMB (559/579), 0230 SV1OE (559/559), 0330 W4RDI (579/579), 0337 W2UHI (589/599), 0411 K5GW (529/O), O513 WA5OFS (539/559), 0530 G4DZU (559/579), 0542 DH9FAG (559/599), 2231 OE5JFL (589/589), 2237 JA8IAD (549/579), 2252 DL4YAO (559/559), 2258 ZS6AXT (579/599), 2302 HB9BHU (569/569) and 2344 JA8ERE (549/559), and on 28 Nov 0003 JA6CZD (569/579), 0009 JH5LUZ (589/599), 0021 DF3RU (569/579), 0030 JA4BLC (519/579), 0059 G3LQR (579/579), 0147 F1AQC 559/559), 0447 W4AD (549/559), 0500 W1QC (579/339), 0526 WA9FWD (559/569), 0616 WA4NJP (319/559) and 0649 W6HD (579/579). My final score was 67x29.

IK2MMB

Sergio's contest report follows -- This was my 1st ever EME contest. I worked non-stop from 1330 LST on Friday until 0130 LST on Saturday morning. 12 hours with one sandwich and 2 beers, only! My ambitious target was to be able to make at least one QSO. I went on the air and heard my echoes for the 1st time. I believe all of you can recall this exciting moment. The confusion in my shack was tremendous… I couldn't find the relays that would have allowed me to operate with only one rig. TXing with an IC706 with an internal electronic bug - my keying must have been terrible, but I couldn't do better - I QSO'd HB9BBD, F5PAU, HB9SV and OE5EYM. The next night I was much better prepared and able to operate transceive with my regular bug. I heard many other stations, but I decided to take it easy for the 1st time. TNX to everybody for such a great opportunity!

IK5QLO

Andrea writes -- It is sometime since my last NL report. In the ARRL Contest we ended with a score of 16x13 after only about 8 hours of operation in the 2 legs. The most interesting part of my activity was participating in one end of the 1st 70 cm EME QSO between two 2 yagi stations. The big QSO occurred on 23 Dec (the big Moon night) at 0500 on sked with Josep, EA3DXU. This QSO demonstrates that even with little gear and lots of patience, EME can give much satisfaction to the keen operator. With only 2 yagis and a state of the art station, EME activity on regular basis is possible and enjoyable. As EA3DXU pointed, now with the power and the NF we can obtain plus all those DSP filtering board and software, it should be possible to make similar QSOs on random. More details and an audio sample of the QSO can be found at my WEB page: at

Andrea, IK5QLO

JA6AHB

Toshio's EME results for 432 in Dec – I worked on 18 Dec VK5AFL, JA3SGR for an initial #62, G3HUL #63, EA3DXU and IN3AGI #64 – heard UA9FAD, on 19 Dec JJ1NNJ, VK4AFL, DF3RU, G4ERG #65 and DJ3FI – heard JA5OVU, 25 Dec N4GJV #66, JH1KRC #67, VK4AFL, JJ1NNJ, JA5OVU, RA3LE #68, PA0AVS (#), UA4API #69 and JA4BLC – heard were JH4JLV, RW1AW and DJ3FI, and on 26 Dec K5GW, VK4AFL, JH4GJV, VE6TA, JH0WJF #70 and EA3DXU - heard was W7CNK.

KD5FZX

Mats (SM6IKY) will not be QRV on 23 cm EME for a while -- I am moving to a new QTH that happens to give me a MUCH bigger EME window. I will check in again after relocating my equipment, which will take 6-8 weeks.

OE5JFL

Hannes just for fun took note of the signal strength of the stations he worked in the EME contest – see the table at the end of this NL -- My antenna is a 10 m dish, RX bandwidth was 100 Hz. I took the mean value of the 3 highest peaks during each QSO. In the case of mixed polarity on 70 cm (same strength H/V), I added 3 dB. There was no wind during my activity, so I could always position my antenna exactly on the Moon. My apology if somebody feels his call is not listed high enough on the dB scale. It was probably due to conditions or misreading on my side. There are of course always ups and downs of conditions, but I think there were no big changes during the whole contest on 70 cm where I can switch polarity or on 23 cm. For comparisons: 20 dB in my receiver needs around 500 kW EIRP on 70 cm, and 800 kW EIRP on 23 cm.

OZ6OL

Hans reports that one of the strongest hurricane of the century hit Denmark in the beginning of Dec… houses collapsed, trees came down, road were blocked. He lost his tropo antennas, the rotator is in pieces. Fortunately his EME dish survived with only limited damage. Two of his top sections are bent and ripped by roof tile blown from his home. Hans thinks he can make the repairs from a ladder, but has some home repairs to do before he can work on the dish!

VE6NA

Bryan is a new station on 23 cm EME. He made his initial QSO with K5JL (M/O) in Dec. Bryan is running a 12' dish, 200 W PA, AGO pre-amp and VE4MA feed. Skeds can be arranged via e-mail at:
Bryan, VE6NA
or tel 403-281-5379. [TNX K5JL for this report.]

W2WD

Warren has some bad news -- High winds damaged the dish - at least 5 struts were broken, but no other apparent damage. I should be able to replace the struts and be back in operation soon. To bring you up to date, I previously reported that I had worked DL9KR, OE5JFL, DF3RU and F5FEN. This wasn't too bad when you consider the fact that Rose and I were working after dark, only a few hours before the Moon got into position. The only check I could make was VSWR, which was 1.15. But these were all big guns and I had worked all, or most all, with my single yagi. N4GJV did send me an email saying he had heard me and I was much stronger than I was with the yagi. OE5JFL also said the same thing. However, I did not hear my own echoes or any of the littler guys so I started making some checks. I measured the depth and diameter of the dish and calculated the focal point at 11'. This is about 2' above the point I put it. It being difficult to make that kind of adjustment, I tried to raise the outer edges of the dish by shortening the strings a bit and thereby lowering the focal point and broke a couple in the process. The polar mount I have is not designed to go into negative declination, so I can not make Sun noise measurements. I was going to wait for the Moon to come back North so I could do some more "own echo" tests, but I do not think I can make the repairs anytime soon, especially with the holidays. I will have to take the dish down to keep the neighbors reasonably happy.

WA6KBL

Jeffrey has discovers some discrepancies between EME calendars -- I looked at G3SEK's calculations and recommendations for 2000 SW dates, and then looked at W5LUU's calculations and recommendations on the W5UN webpage. They seem to have different results for both dB degradation factors on 432 & up and also for their final recommendations of the best weekends. I am puzzled by this and hope that others may have explanations for me. Did an error creep into someone's calculation? [I do not know why the loss factors do not agree, but there can be good reasons for choosing different weekends for 144 MHz than for 432 & above. Sky noise, for example, has a much greater effect on 2 than on 70 cm and the higher bands.] I cannot break away from work right now to replace the bias supplies in my PA and thus will not be QRV for the Dec SW. I hope to make repairs in time for the window in Jan. Even with only operating 2 out of 4 days of the ARRL contest and having the handicap of being on the far West Coast of the USA and not remaining up for JA stations, I was able to log 24 contacts in 13 countries on 23 cm only.

WB0GAZ

Dave is interested in 6 cm EME and poses the following question -- My question is about the EME freq on 5.7 GHz. In the US there is a type of high speed wireless data service based on commercial data modem devices that may start

appearing in some markets. The 5 GHz band is divided into some FCC assigned channels, and one of the channels appears to be at 5760 MHz. Power permitted there for the service is 4 W ERP. I do not know permitted modulation schemes or bandwidths, but it seems like 4 watts even over a fairly broad bandwidth would be significant source. [I am pretty sure that system you are referring to is based on CDMA. This may turn out to be the saving grace. It may be possible to filter out these signals using a fast responding limiter, similar to what has been done for some forms of radar.] My concern is that presence of this service near a ham interested in 5760 weak signal work might be a problem. The service is not permitted in the 5600 MHz range so it seems that P3D would not be impacted. Is anyone following this service introduction and is an impact on 5760 weak signal/EME work expected? As I've been slowly gathering parts for a 6 cm EME station over the last few years. I hope this effort is not going to be wasted due to this new source of QRM. [I doubt it, but there is obviously a lot to be learned. Dave can be reached via e-mail at .]

WB0GGM

John finished up the contest with a score of 18x13 on 70 cm. It would have been higher, if John had not fallen asleep. He worked about 5 initials and is available for skeds during the Jan SW.

YO2IS Szigy notes -- It's now more than 10 years that I have been active on EME and read the NL. Lately I have not been as active on 432 MHz, despite the fact that I am retired since Sept 98. The rig and antennas are still in good shape after 10 years! I hope to move to a better location sometime in the future. In the ARRL EME Contest my score on 432 was 18x12. This was the 1st time that my 70 cm activity was less productive than those of 2m! Only one initial with RW1AW was made. I am open for any skeds and am looking especially for Oceania to complete WAC! [Szigy can be reached via e-mail at:
Szigy, YO2IS .]

K2UYH

I had planned to give a demonstration of 1296 EME for children of friends on 22 Dec, but the WX did not cooperate, so I put it off to the following night. The WX was beautiful on 23 Dec, but there was not much activity. At about 0245 N2IQU showed up with his huge signal to save the day. The kids (and adults too) especially enjoyed hearing their New Years Greetings echo off the Moon. Activity was low during the SW, but this was not surprising considering the competition. My own activity was dampened by a bad case of the flu that weakened my stamina. I started operation on 25 Dec about 0400, but did not hear anything until I worked at 0451 UA3PTW (O/O) for initial #620 on random about a half-hour before our sked. This was followed by QSOs at 0510 W7CNK (549/549), 0535 RA1AW (549/549) and 0619 UA4API (449/449). I got a few hours sleep and

was back on for my sked at 0830 with GM0ONN, but heard nil and did not have the strength to stay around for the Asian window. The next day I switched to 1296 and again began operation around 0400. I worked at 0422 ZS6AXT (559/589) but heard little else and went to bed. I was back up at 0800 for my sked with WA1JOF, but heard only some very weak (T) signals that were impossible to identify. At 0815 W1ZX showed up and was QSO'd (559/559) followed at 0829 by OH2DG (549/559). I gave up for the night around 0900.

NETNEWS

G4RGK, DAVID DIBLEY

K0YW is working on a 23 cm EME system. He has both the dish and the xvtrs.

LX1DB is starting EME testing on 24 GHz and has 7 dB Sun noise with a 1.8 dB NF. Willie also QSO'd W7CNK on 5.7 GHz.

WE2Y worked AL7OB and K5WXN on 70 cm random.

KB0VUK now has max power on 70 cm [1.5 kW?]

KB8RQ has been spending all his free time at new house location and hopes to be QRV on the Moon soon.

W5LUA now has 750 W on 23 cm (2200v HV on TH-327) and a 2.4 dB system NF on 24 GHz. Al had bad WX during the Dec SW.

VE6TA plans to spend the next couple of months on 70 cm. Grant asks if anyone has ever received a WAC award for 23 cm? [Many 1296 WACs have been awarded. WAC was 1st worked in Feb 1989, 13 years after 70 cm WAC. SA was the last continent to become QRV. YV5ZZ was the 1st station on 23 cm from SA and 1st worked OE9XXI followed by OE5JFL, HB9BM, LX1DB, K2UYH, WB0QMN, WB5LUA, WB0DRL and VE4MA.]

W7CNK reports a lot of activity on 70 cm. He is working on a new stripline preamp for 70 cm.

W4AD worked K5JL and heard ??2MU. He still feels he has a dish problem.

W7QX will be QRV on 23 cm during the Jan SW. Jerry is measuring 15 dB of Sun noise and 7.5 dB CS/50 ohm resistor. [Using a 50 ohm load as a reference is just about meaningless because of the sensitivity of 1296 LNA gain to impedance

match.]

HP3XUG has been trying to work Europeans with poor results due to one way conditions.

W5ZN reports has the latest info from Microwave Update.

CT1DMK is still QRV on 70 cm and will not be changing feeds unless something very special comes up.

W7SZ has his 6 tube OZ9CR amp running at 500 w on 23 cm.

W2UHI's 23 cm sked with W7SZ was not complete.

ON5OF asks if are RW1 and UT3 separate multipliers? [I think they are the same.] If so his 70 cm contest score is 55x25.

DJ9YW is back on 1296 EME after having been in the hospital.

NU7Z is again QRT on 5.7 GHz. He will let us know when he is back on again.

DD1XF was not able to be QRV during the Dec SW because of very high winds.

K4AR had to cancel is Dec SW skeds because of family obligations, but will be QRV again on 70 cm in Jan.

OK1DFC is looking for QSLs from DH9FAG, F2TU, HB9BHU, I0UGB, I6QGA, IK3GHZ, JF3HUC, K9KFR, KB2AH, N2IQU, OE9XXI, PA3CSG, SM4DHN, W1YX, W4RDI and WD5AGO.

K6JEY has been making adjustments to his 4 x 19 el RIW array and feels he have them tweaked up as well as he can. Doug is interested in skeds and can be reached at or ICQ #7769956.

FOR SALE

WA9FWD has the following test equipment for sale: HP 141T with 8552B/8554L 1.3 GHz Spectrum Analyzer $US950, HP 141T with 8552B/8555A 18 GHz Spectrum Analyzer $US1050, HP 8445B Tracking Filter with HP cable for 8555 $US345, HP 5245L counter with HP 5254A 300 MHz to 3 GHz plug in $US75, Polarad 1108F signal generator 7-11 GHz with mechanical digital readout $US95, HP 608E signal generator with manual $US75, HP 432A Power Meter with cable and head $US175, HP 8750A storage normalizer for network analyzer $US85,

and Drake TR7 with PS7 $US575.

K6JEY is still looking for 4 x 25 el K1FO yagis. Doug can be reached at: Doug K6JEY or ICQ #7769956.

LU8EDR and LU6DW are in need of 7289s for their EME station. Anyone with extra 7289s in good shape can send them to Jay, K5JL and he will forward them to Argentina.

FINAL

It is hard to be believe, but this is vol 29 of the NL!

? My sympathy to our friends in Eur. This century did not end quietly, but instead produced some terrible WX – see OZ6OL's report. Parts of France and Germany among other places were hit particularly hard. A lot of antennas are apparently in need of repair or repacement.

? There have not been too many comments on the Proposed 2000 Skeds that appeared in the last NL. Some concern was raised by WA6KBL – see Jeffrey's report and also G3SEK's report for a response. Based on what I have heard thus far, it appears that the dates will stand. One thing we still need to do is to set some dates for alternate microwave EME activity weekends? The earlier this is done, the more time there will be to prepare.

? Have you made your EME2000 reservations yet? I have to admit I have not made mine, but I know I should soon as Sally and I are definitely planning to be there. If you have not responded to PY5ZBU request: "We need Input from all potential conference participants because our Crystal Ball does not function so well down here South of the Equator!" Please communicate you plans to Don by e-mail:
EME2000
or fax: 55-41-341-1504 or letter addressed: Av. Juscelino K. de Oliveira, 11.400 - Cic - 81450- 900 - Curitiba – Pr.

? That covers the news. . Please keep the information coming. Technical reports are especially needed. Don't forget to get your material in for the Rio2000 Conference. I hope to see many of you off the Moon during the coming SW.

73, Al - K2UYH

OE5JFL Signal Strength Measurements – See Hannes' report

- - - 70cm - - -70cm - - -70cm - - -

30dB: DL9KR
29dB:
28dB: OH2PO
27dB:
26dB: DF3RU, OE5EYM
25dB:
24dB: DL9NDD*, JL1ZCG
23dB: OZ4MM
22dB: DJ6MB, K1FO
21dB: N9AB, W7GBI
20dB: G3LTF, DL4MEA
19dB: ON4KNG
18dB: JA6AHB, G3SEK, K0RZ
17dB: HA1YA, DL6WU, 7M2PDT, ON5OF
16dB: JH4JLV, K5WXN, JH0WJF, VE6TA
15dB: JA5NNS, JA2TY, OZ6OL, K8ISK, OE3JPC, DL7APV, IK5WJB
14dB: DL1YMK, UT5EC, JS3SIM, W7SZ, G4ERG
13dB: EA3DXU, S51ZO, RW1AW
12dB: DL3EAG, DK3FB, VE1ZJ, G4ALH, IK5QLO
11dB: F1CH, WB0GGM
10dB: SK4BX, YO2IS, JJ1NNJ
9dB: JA3SGR, W2WD, G4RGK
8dB:
7dB: UA3PTW, DK0MM

- - - 23cm - - - 23cm - - - 23cm - - -

32dB: HB9BBD, HB9SV
31dB:
30dB: OE9ERC, K5JL
29dB:
28dB: F5PAU, OZ4MM
27dB: OH2AXH, VE1ALQ, SM3AKW
26dB: OE5EYM
25dB:
24dB: JA6CZD, EA3UM, K4QI, K2DH
23dB: G3LTF, DD1XF, K2UYH
22dB: ZS6AXT, WA9OUU, W5LUA
21dB: JH5LUZ, DJ5MN, SM2CEW, HB9BHU, F5AQC**
20dB: OK1DFC, VK5MC, W2UHI, CT1DMK, ON5RR
19dB: OZ6OL, S59DCD, IK2MMB, W3XS
18dB: F1ANHp*, OH2DG, VE6TA**
17dB: VE1ZJ
16dB: JA8IAD, K3HZO, W7SZ
15dB: JA8ERE
14dB: WD5AGO, WA4OFS
13dB: JA4BLC

12dB:
11dB: HA5SHF

Notes from K5JL: TH 327 Output Probe

A serious problem has come to light concerning the Output Probe in the TH-327 Amplifier. The dielectric used in the Din connector appears to be made out of a clear substance (probably Rexolite). Either from mating the Din connector or from RF the dielectric breaks down. Cracking and actually falling apart. This lets the center pin that goes to the Din Connector float and as the Male Din Connector is attached the center pin is driven into the cavity and does not make a good or even at times an RF connection. Thus when power is applied bad things can occur. To prevent this, the output probe should be modified. An additional plus from this modification was that my cavity seems to tune more as would be expected. Before the maximum power out of the amplifier was with the 25 mm disc very near the outer cavity wall. Now maximum output is obtained when the disc is pushed into the cavity. For the same amount of input drive I am now getting 400 – 500 watts more output. When I increase the drive I can see output in excess of 2kw. The only difference from the original output probe and the modified probe is that the 25mm disc is now 3/8" from the body of the probe and before this distance from the disc to probe body was less than 1".

Modification Procedure

1. **Remove the 25 mm disc from the center pin.**
2. **Remove the center pin from the Din Connector end (this should UN-screw)**
3. **Remove the Teflon centering insulator from the disc end of the probe.**
4. **Place a piece of aluminum on an electric stove burner.**
5. **Place the Din connector end of the probe on the aluminum and heat up slowly.**
6. **Solder will melt and with a pair of gloves or hot pads you can remove the probe body from old Din connector.**
7. **Cut a piece of .095 brass to fit new Female Din connector (1 " x 1 ").**
8. **With Greenlee punch or by careful drilling make a 5/8" hole in the center of new brass flange.**
9. **Mark the 4 mounting holes for the New Din Connector – then drill and tap for 6/32 screws.**
10. **Be sure that the new brass flange is flat and at this point you may want to silver plate the brass flange. (Either electrically or with some rub on silver plate)**
11. **After you are satisfied that flange it going to bolt to**

New Din Connector and the alignment is correct – place the flange and probe body and heat until you can flow solder from flange to probe body. (Alignment can be accomplished by inserting a 5/8" rod or plug into the 5/8" hole of the flange and probe body. I used a piece of 5/8" Ultem – it melted on the stove end, but held the flange and probe in alignment).

12. You will note that the center pin is threaded on both ends (Threads not the same) – Place the 25mm disc back on the proper end and on the other end cut down the threads so that the pin can be soldered into the Female Din Connector.
13. Solder center pin into Din Connector center. (a good low melt silver solder from Radio Shack works well).
14. Remove disc from center pin and mount Din Connector using the 4 holes that were tapped for 6/32.
15. Replace the Teflon spacer at disc end and screw the 25 mm disc on.

This mod may be applicable to some of the YL-1050's if the output probe was constructed in the same manner as on the TH-327's. I want to thank Lucky W7CNK for this help and suggestions with this modification.

EME schedules, last update 6 Jan 2000, 01:28

(432 MHz listed only)

Skeds for JAN 15

Time	432.040	432.045	432.055
0430z		JH0WJF-K2UYH	
1230z	OH2DG -JA2TY		
1300z	OH2DG -JF3HUC		
1330z	OH2DG -JA6AHB	DF3RU -JH0WJF	
1500z	YO2IS -JA6AHB		
1900z	G4ALH -OH2DG		
1930z	CT1DMK-OH2DG	DL1YMK-EA3DXU	
2000z	WE2Y -UT3LL	EA3DXU-UA4API	
2030z	K2UYH -RV4AQ	W8MQW -EA3DXU	WB0GGM-ON4KNG
2100z	N3FA -DF3RU	KA0RYT-EA3DXU	K2UYH -GM0ONN
2130z	WB0GGM-DJ3FI	K5WXN -EA3DXU	
2200z	VE6TA -CT1DMK	WB0GGM-EA3DXU	
2230z	K6JEY -DF3RU	W7SZ -EA3DXU	VE6TA -DL7APV
2300z	W7SZ -DJ3FI	K6JEY -DL9KR	VE6TA -OE3JPC
2330z	KB0VUK-K2UYH		VE6TA -PY5ZBU

Skeds for JAN 16

```
Time   432.040

0100z  AL7OB -VE6TA
0430z  K6JEY -K2UYH
2200z  WB0GGM-OK1KIR
2230z  WB0GGM-SM3AKW
2300z  WB0GGM-LX1DB

EME schedules, last update 6 Jan 2000, 01:28

(1296 MHz listed only)

Skeds for JAN 16

Time   1296.050
1200z  OH2DG -JF3HUC
2000z  SV1OE -OH2DG
2030z  PY5ZBU-OH2DG
2100z  K3HZO -I5MPK
2130z  W1ZX  -IK2MMB
2200z  W1ZX  -I0UGB
2230z  K3HZO -G4DZU
2300z  K3HZO -9H1ES
2330z  K9ZZH -K3HZO

Skeds for JAN 17

Time   1296.050

0000z  WA9FWD-K3HZO
0030z  W7QX  -K3HZO
0100z  WA1JOF-K2UYH
0400z  W1ZX  -W7SZ
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Most recent Schedules from Klaus, DL4EBY

Lunar Calendar for 1999 prepared by G3SEK

Netnotes by K1RQG

Leave Contest Info or Comments to Allen Here

This information was obtained from: Scott, KD4LT

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Rein, W6/PA0ZN

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